DOCUMENT RESUME

ED 060 857 LI 003 521

AUTHOR Marples, D. L.; Knell, K. A.
TITLE Circulation and Library Design: The Influence of 'Movement' on the Layout of Libraries.
INSTITUTION Cambridge Univ. (England). King's Coll.
PUB DATE Feb 71
NOTE 12p.; (1 Reference); Prepared in the Engineering Department

EDRS PRICE MF-$0.65 HC-$3.29
DESCRIPTORS *Acoustical Environment; *Human Engineering; Interior Design; Libraries; *Library Facilities; *Library Planning; Space Utilization
IDENTIFIERS *Floor Plans

ABSTRACT

The movement of people in a library is inevitably noisy and also creates a visual distraction for the reader. If the provision of quiet areas where readers can work undisturbed is an important criterion of library design, the traffic patterns generated in a library by the disposition of the various facilities - stacks, periodicals, reference books, catalogs, staff, browsing accommodation and areas for study - should be one of the main determinations of the layout. A reasonable reference from most existing layouts is that designers have been too concerned about the general appearance of the library and insufficiently concerned to isolate serious readers from the disturbance caused by all the other activities. With this in mind the authors present five alternative floor plans which are designed to separate serious readers from the general flow of library traffic. (Author/SJ)

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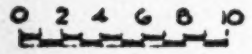
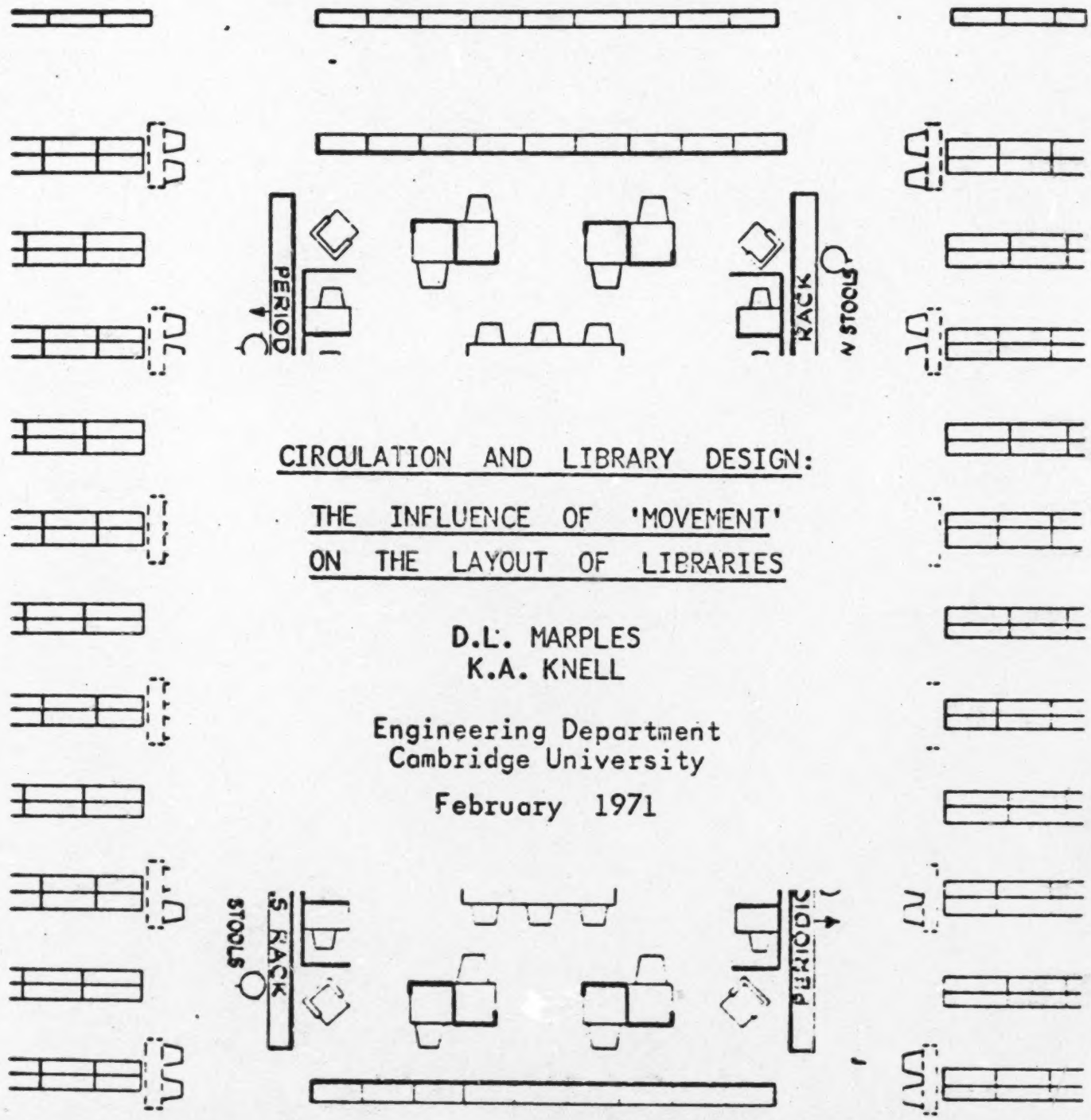


ENTRANCE

GENERAL AMENITIES : LOBBY . CLOAKROOM,
ISSUES DESK , STAFF, CATALOGUE , ETC.



CIRCULATION AND LIBRARY DESIGN:

THE INFLUENCE OF 'MOVEMENT' ON THE LAYOUT OF LIBRARIES

D.L. MARPLES
K.A. KNELL

Engineering Department
Cambridge University

February 1971

LI 003 521

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Circulation and Library Design
The Influence of Movement on the Layout of Libraries

This material has been put together for the benefit of people concerned with the design of library layouts. It is offered as an extension to, or a revision of points made in Appendix II (Standard brief to architects on the planning of departmental libraries) of the "First Report of the General Board's Committee on Libraries" (Cambridge University Reporter, No. 4653, 28 March, 1969, Vol. XC1C, No. 29, page 1230); in particular, Section III (f) "Noise ...", also Section III (b) "Use of wall-space for bookshelves ..." and Section I (b) "The library to be treated as one single area."

Between 1968-69 the Engineering Library was replanned and enlarged shortly after the General Board's Committee on Libraries had held a survey of undergraduate use of Libraries (including the Engineering Library) in 1967. On the day of the survey over 200 undergraduates visited the Library and were asked to fill in a questionnaire. In reply to a request for general comments, several respondents complained of the disturbance caused to readers by other readers who found it necessary to refer to books or periodicals in the area designated primarily for reading.

Consideration of the layout of the Engineering Library as it then was and of some of the other libraries in Cambridge (there must be 80 in all!) led to the conclusion that this point is rarely, if ever, given adequate attention by the designers of libraries. The Engineering Library, when enlarged in 1968/69, was replanned as far as possible to conform to the following philosophy of library design. The Trinity Hall library has also been rearranged with this philosophy in mind, within the limits of the total space and budget available, and the need to retain certain valuable stacks.

The movement of people in a library is inevitably noisy and also creates a visual distraction for the reader. If the provision of quiet areas where readers can work undisturbed is an important criterion of library design, the traffic patterns generated in a library by the disposition of the various facilities - stacks, periodicals, reference books, catalogues, staff, browsing accommodation and areas for study - should be one of the main determinants of the layout. A reasonable inference from most existing layouts is that designers have been too concerned about the general appearance of the library and insufficiently concerned to isolate serious readers from the disturbance caused by all the other activities.

A user cannot visit a library without movement, and his other activities can be distinguished from each other by the length of time each requires and by the relative importance of any form of distraction during this time. Clearly, a person wishing simply to borrow a book spends most of the time of his visit moving, and his activity requires a minimum of concentration. He should, therefore, be able to slip in and out with the least possible movement and noise, and without concern for privacy. A person intending to study the whole morning spends very little of the time of his visit moving, and needs the greatest possible privacy. He should, therefore, pass through all those people whose movement-activity ratio is higher than his and find a secluded nook where such people have no cause to penetrate.

A list of the various reasons for visiting a library, in order of descending movement-activity ratios and ascending need for seclusion, may be grouped as follows:-

Group 1
- Return a book.
- Consult the catalogue for the details of a book.
- Consult the librarian.
- Consult the catalogue, find a book on the stacks and borrow it.

Group 2
- Consult the catalogue, find a book on the stacks and browse in it.
- Scan the shelves, select a book and browse.
- Consult a reference book or browse in a periodical.

Group 3
- Bring one's own books and/or take a book from the stacks and engage in prolonged study.

The interaction between the activities listed in different groups is relatively small and there seems to be no reason whatsoever for allowing those of Groups 1 and 2 to interfere with those of Group 3. The analysis provides a strong argument for interposing a browsing area between the administration/stack areas and the study area, and a really good physical barrier which will separate the study area from everything else. Furthermore, it might be suggested that the order of the facilities given above is also the approximate order in which they should be encountered upon entering the library.

In practice, the physical barrier may easily be made of special stacks containing reference books or periodicals and the like, turned towards the browsing area and away from the study area. It may well be that in libraries covering a large area, study areas may be created at the ends of individual stacks after passing through them. At all costs, study areas on one side or either side of gangways leading to stacks should be avoided. Unfortunately, this situation is more frequently to be observed than avoided. A simple design formula that expresses this philosophy in terms of the allocation of the total area is:-

1. Movement area: supervisory staff, catalogues, traffic lanes, main book stacks, occasional reading positions.

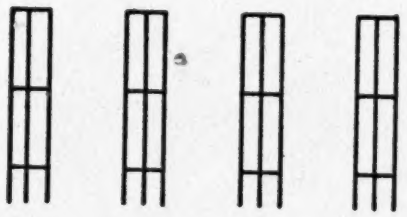
2. Buffer zone: selected book stacks, substantial periodicals display and store racks.

3. Prolonged study area.

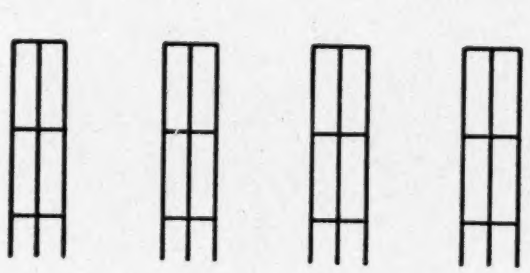
It might be thought that such a formula would be unduly restrictive, imposing the same appearance on all libraries. However, various permutations of the theme are possible provided the order of the formula is maintained. These variations are exemplified in the accompanying diagrams which illustrate how contemporary designs of libraries of various sizes could be re-organised to provide identical facilities with much greater satisfaction to the reader. In each case, 'A' shows the typical present layout; 'B' shows the improved layout. The 'A' layouts are accompanied by a brief note of the objections to it; the virtues of the 'B' layouts are deemed to be self evident.

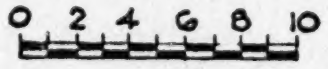
PLEASE NOTE

Readers using any of these plans for their own deliberations should base their standard for shelving nearer to these dimensions:-



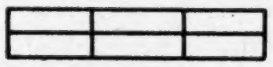
Rather than the one used (which is wasteful):-



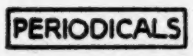


K E Y

x x x x x — Movement: main communication areas, areas of maximum disturbance

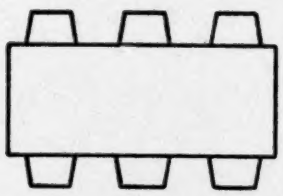


Bookstack

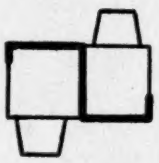


Substantial periodicals display and store rack

Occasional reading position: table or ledge

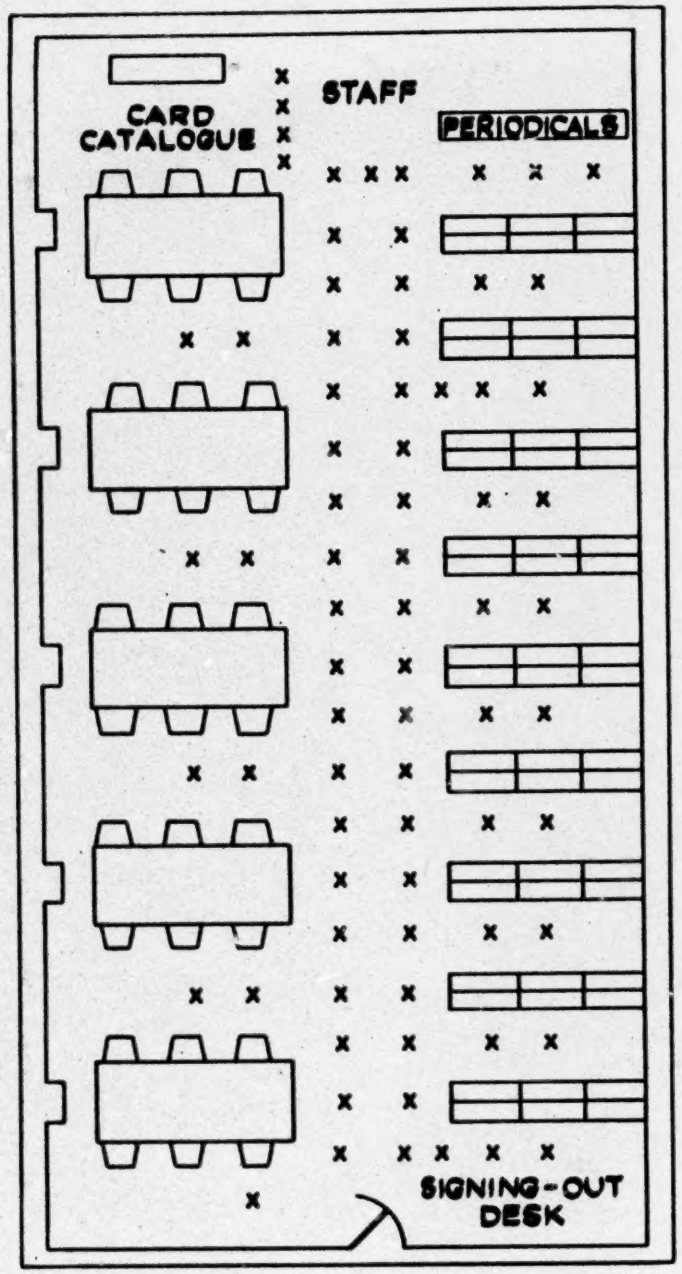


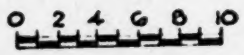
Prolonged study area: Table and chairs

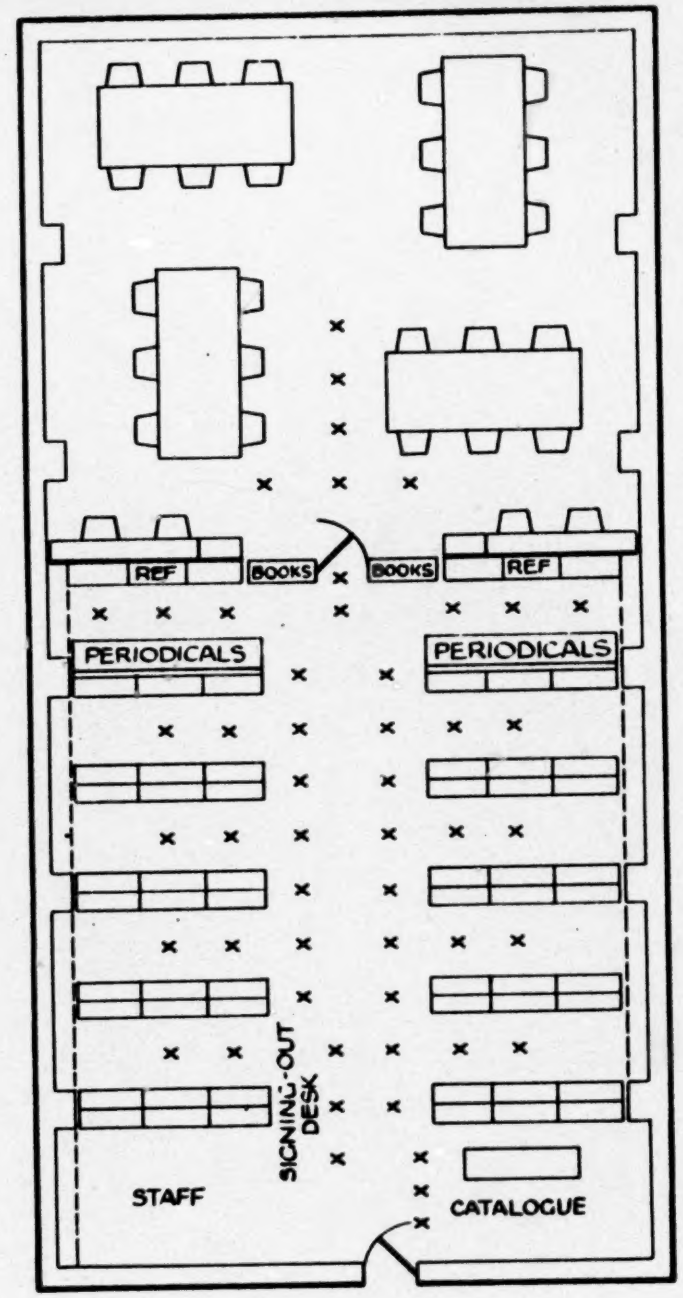


Prolonged study area: Study carrel

Prolonged study area: Individual desk

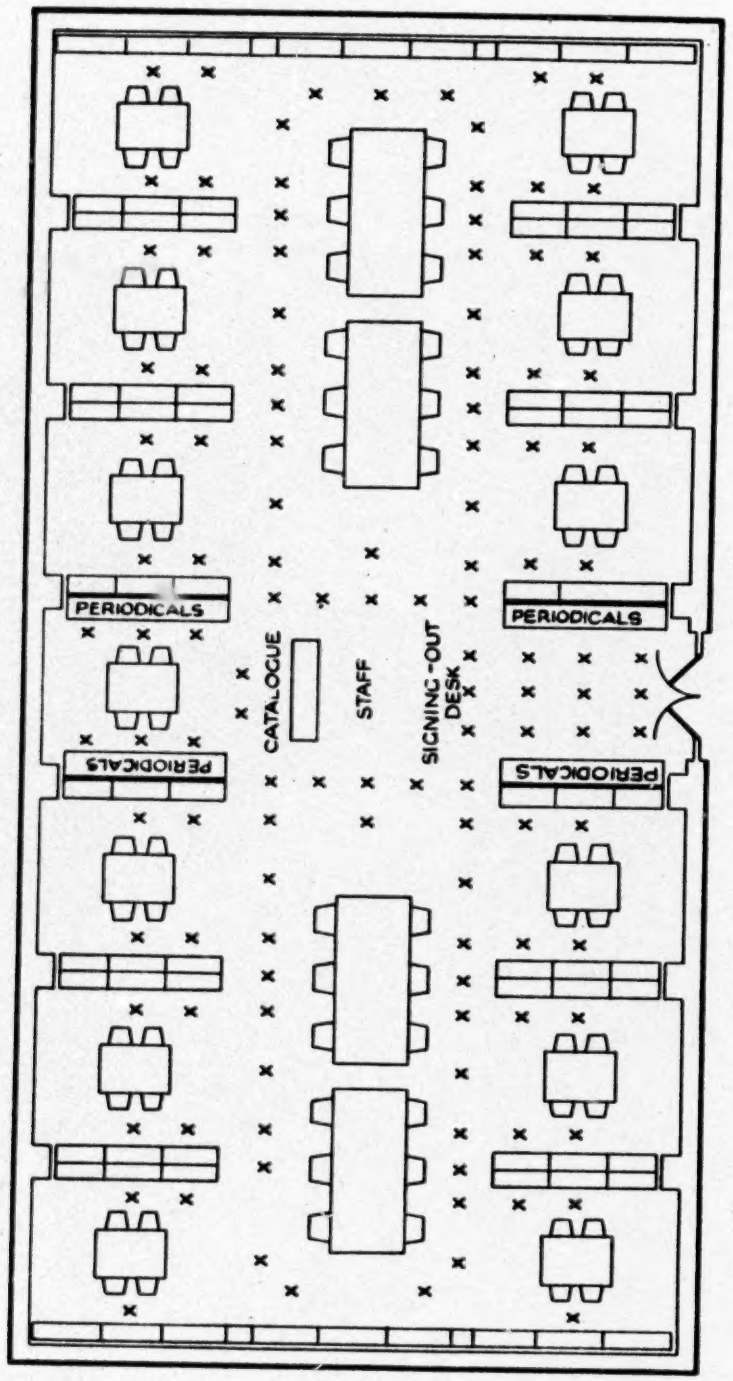




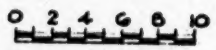


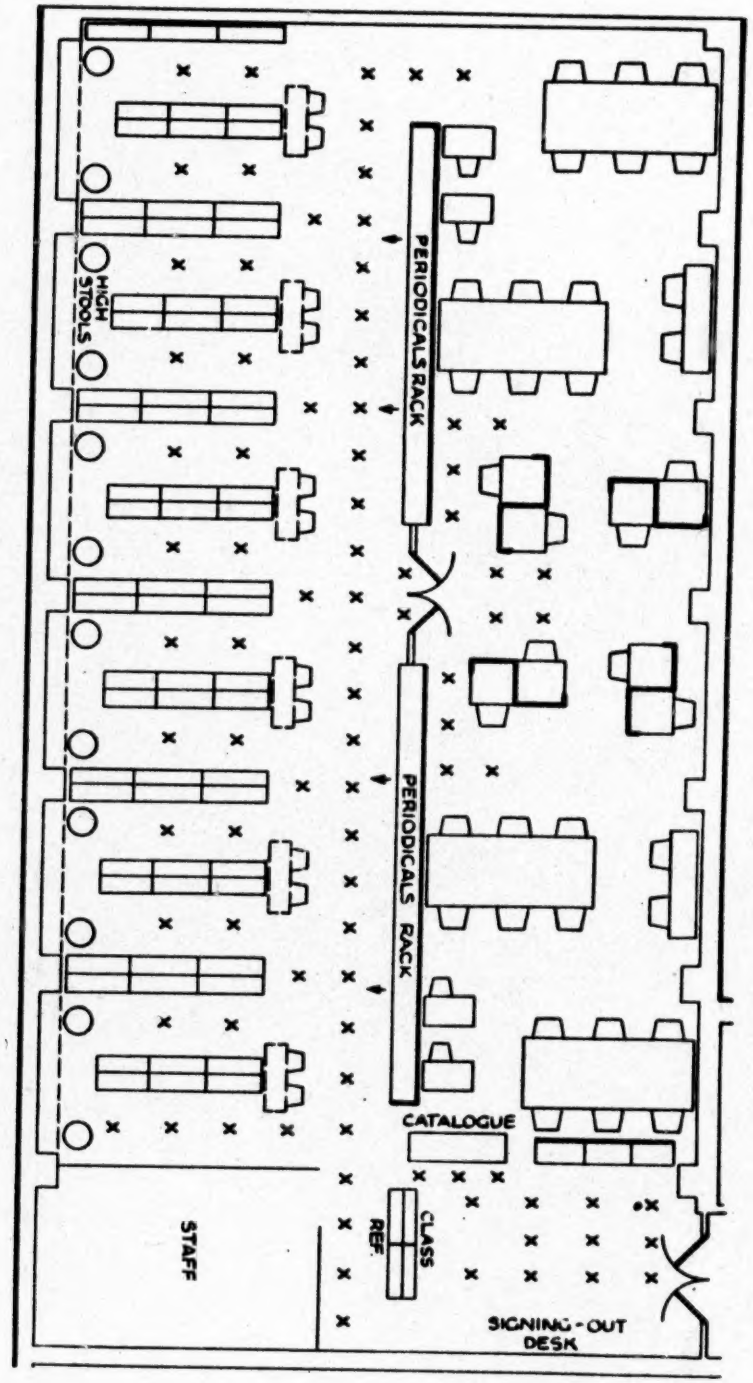
A.1 A design long favoured by architects for a small departmental library, or for a special reading room in a large academic library. The reading area is adjacent to gangways to stacks, and between entrance and staff, or catalogue.

B.1 An alternative layout with the movement factor taken into account.

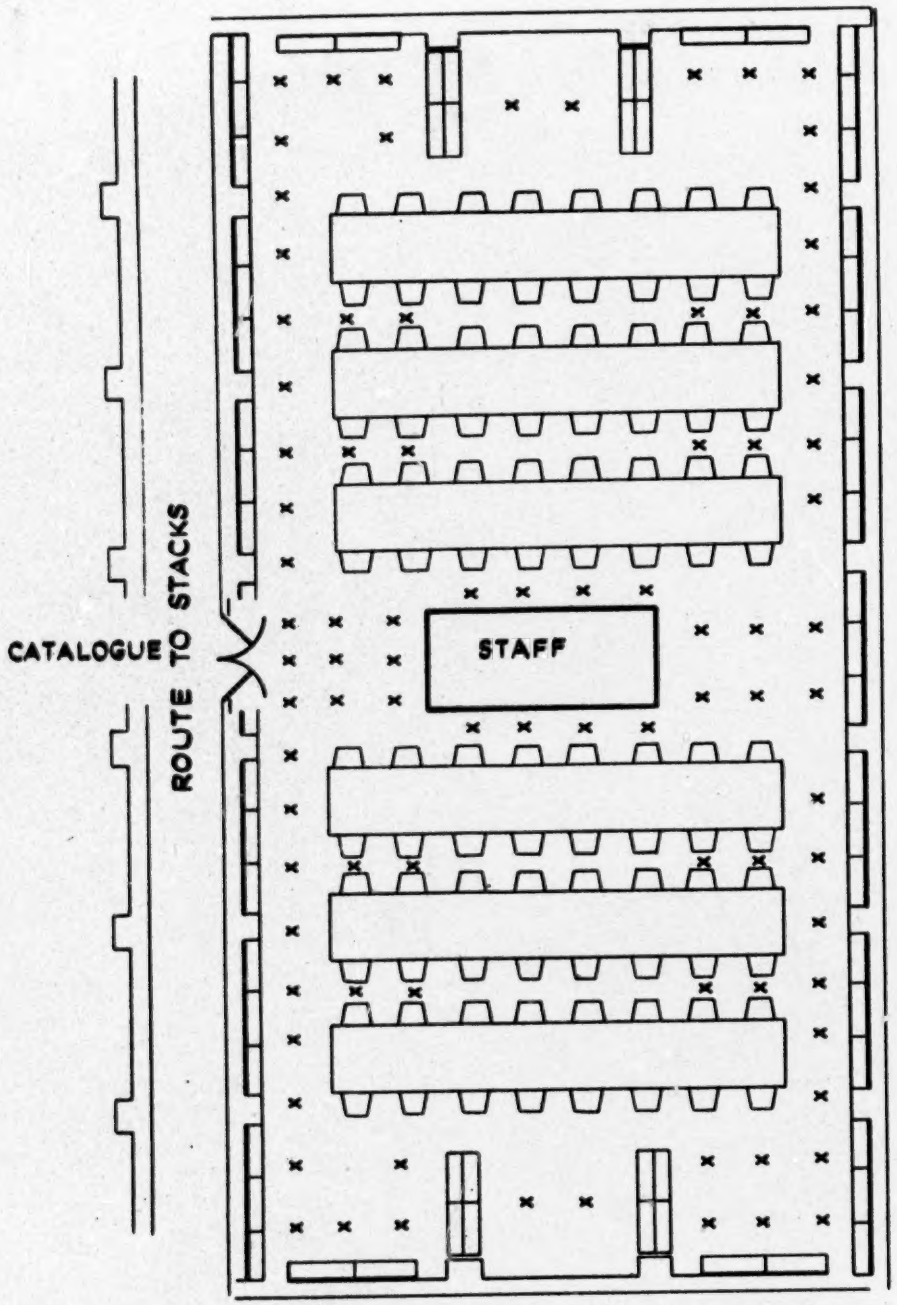


A.2 A typical faculty library layout. Reading areas adjacent to gangways to stacks.

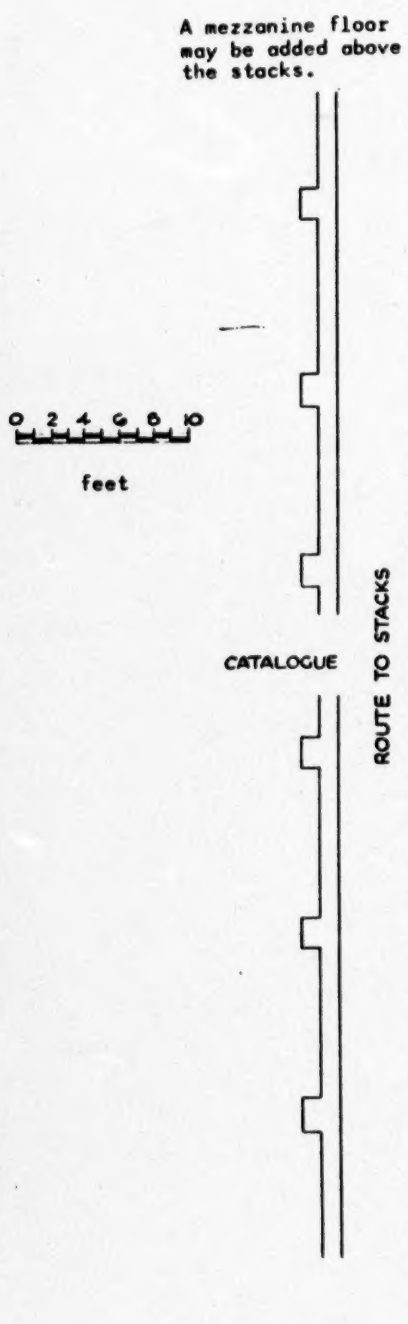




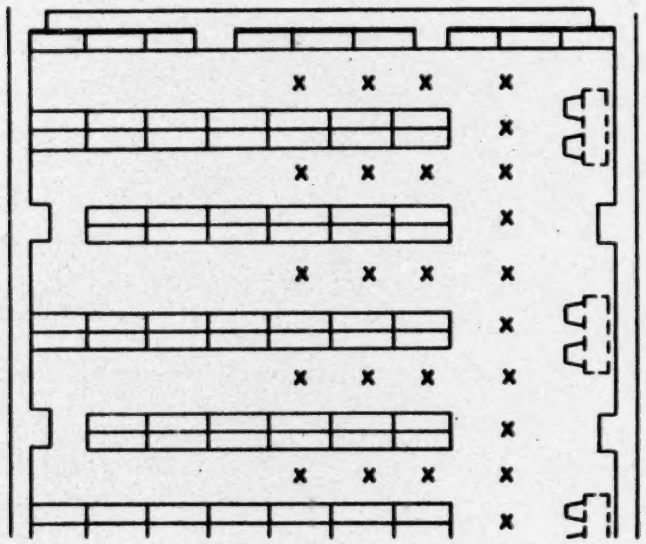
B.2 Alternative design for a faculty library

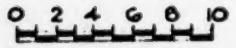


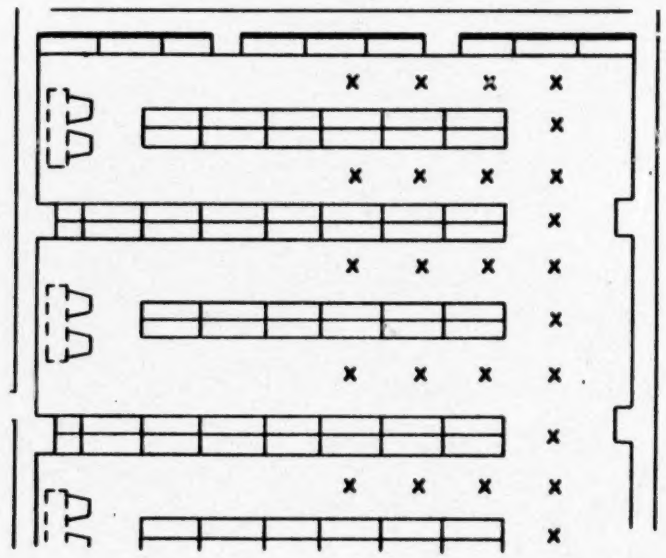
A.3 A long-established pattern for a reading room in a large academic library. Reference books are in shelves around the room, the main stack areas are entirely separate. (See below). Readers using the two centre reading tables in particular will find study difficult due to interference of movement and conversation round the staff space.



B.3 Reference books are in a separate location: movement is kept away from the prolonged study area. The main stack areas are entirely separate. (See below).

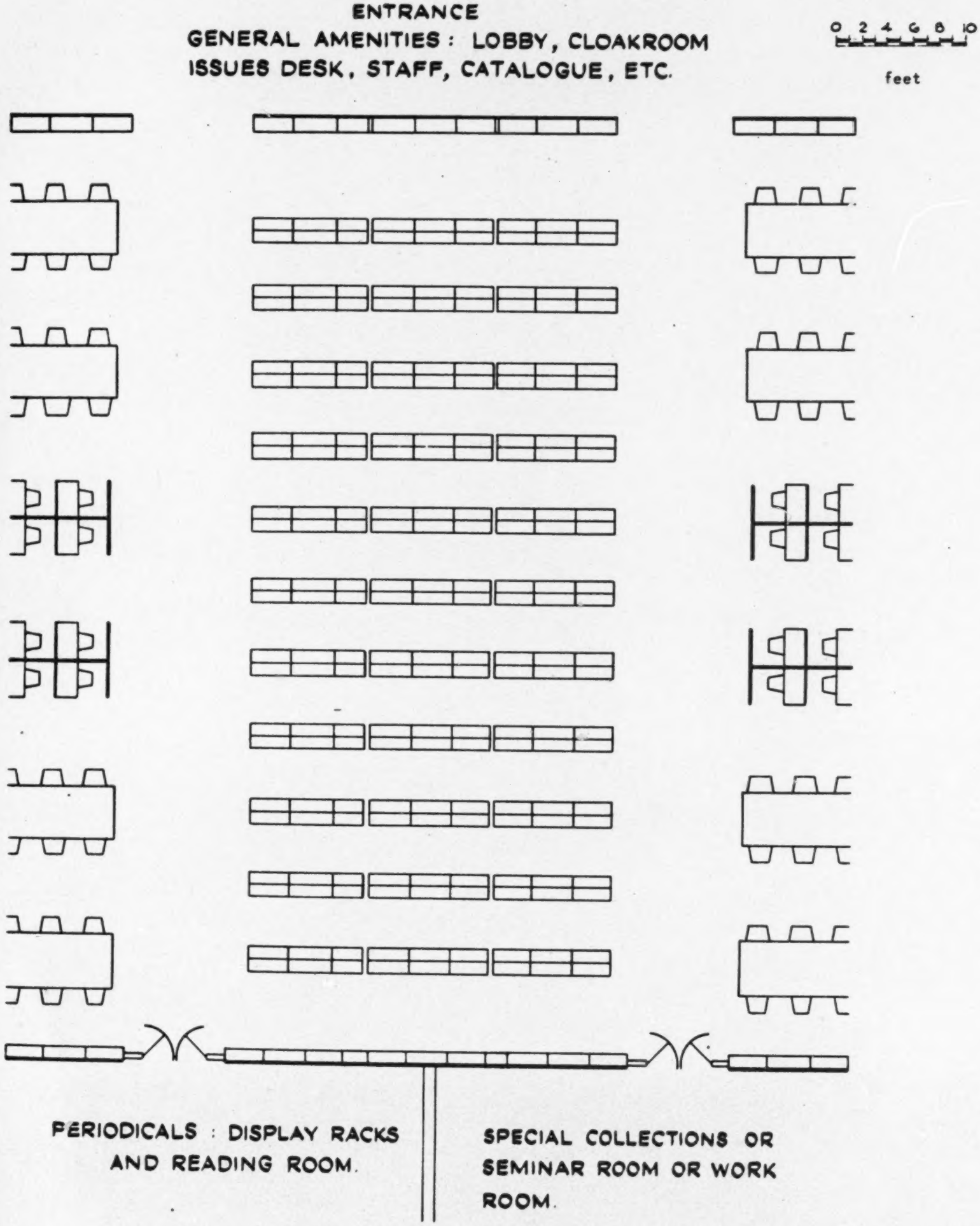




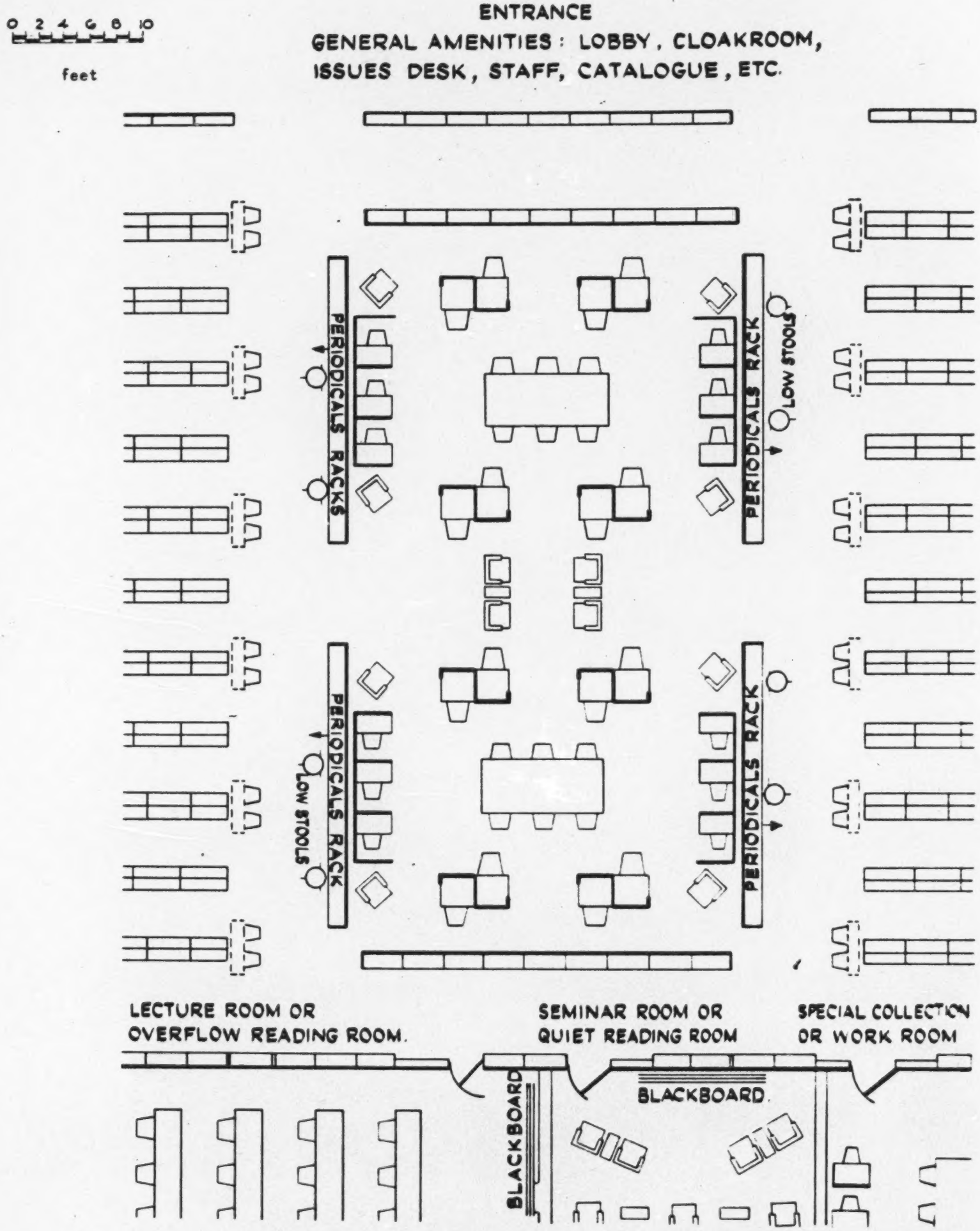


A.4 A stackroom of a large library serving the reading room above. The main gangway to the stacks (used by borrowers and staff with trolley loads of books) passes the backs of readers using the tables. Temporary stack lighting switches are a further distraction.

B.4 An adaptation of A.4 to reduce very greatly the distractions to readers.


ENTRANCE
GENERAL AMENITIES : LOBBY, CLOAKROOM
ISSUES DESK, STAFF, CATALOGUE, ETC.
0 2 4 6 8 10
feet
PERIODICALS : DISPLAY RACKS AND READING ROOM.
SPECIAL COLLECTIONS OR SEMINAR ROOM OR WORK ROOM.

A.5 In designs such as this, for large academic libraries, the architect has preferred the central banking of stacks so the tables may be served by natural light. The penalty is that all movement around the stacks passes some part of the reading area.



B.5 A plan for a large faculty library, or one floor of a large university, or national library. The reading area, which may be termed the prolonged study area, is situated away from the main currents of activity. A variety of furniture is offered to suit varying tastes. Natural light could be fed from above. A mezzanine floor could be incorporated above the stacks.

These five examples are sufficient to show that a consideration of the movement of users of libraries and the distraction this causes to readers will exercise a great influence on the layout of the library. Moveover, they show that, provided the structure of the building is strong enough to permit stacks to be moved about, there is no insuperable reason why most existing libraries should not be reorganised to provide a much more satisfactory service to their readers. However, attempts to do precisely this, both in the Engineering Department and Trinity Hall libraries, show that one cannot achieve a layout as satisfactory as would have been obtained if the libraries had been designed, in the first place, with this principle in mind.

Certain subsidiary conclusions follow which do not always agree with the recommendations contained in the Architects' Brief to which reference has already been made.

For example, since movement should be avoided in reading rooms, most reference books should be made available elsewhere, and it follows that if the reading room has walls, the recommendation that wall space should be used for bookshelves - Appendix II, Section III(b) - cannot be followed.

Similarly, the need for surveillance - expressed in Appendix II, Section I (b) - may require the reading room to be more open and less secluded than is desirable from the point of view of the reader. Reading rooms should be free of staff, for where staff are, for whatever purpose, enquiries, discussion, movement, and hence noise and distraction inevitably result. Where reading rooms are reserved for the study of valuable and rare works, closed circuit television is the most desirable way of permitting surveillance and seclusion to occur simultaneously.

The authors regret that they have not been able to make an exhaustive study of the libraries of Cambridge. They would be grateful therefore, if any librarian who has a library whose layout takes these factors into account would bring it to their notice. So far, they have not been able to discover such a library.

D.L.M.
K.A.K.
February 1971.

Reference

Metcalf (K.D.). Planning academic and research library buildings. McGraw-Hill, 1965.